

REMARKS

Re-examination and allowance of the present application is respectfully requested.

Initially, Applicants thank the Examiner for indicating that dependent claims 3, 8, 16 and 17 contain allowable subject matter, and that these claims would be allowable if they are amended to be placed in independent form. For reasons to be discussed below, Applicants submit that their respective independent claims are allowable over the art of record, and thus, objected dependent claims 3, 8, 16 and 17 are also allowable over the art of record. However, Applicants reserve the right to place objected claims 3, 8, 16 and 17 into independent form at a later time.

Applicants respectfully traverse the Examiner's 35 U.S.C. §103(a) rejection of claims 1, 2, 4-7 and 9-15, and submit that the present invention is not obvious over U.S. Patent 6,553,239 to LANGSTON in view of U.S. Patent 6,067,053 to RUNYON et al., (hereinafter RUNYON).

According to features of the instant invention, the phase of a modulation signal is shifted by 0 degrees or 180 degrees in accordance with a transmission data value per bit, and the transmission data is sent (transmitted) by perpendicularly oriented first and second linear polarization antenna elements. By such an arrangement, every transmission data bit value at a receiving end is associated with either a first electric field strength, or a second electric field strength that is weaker than the first electric field strength. That is, the instant invention sets the amplitude of the electric field strength (e.g., a first electric field strength, or a second

electric field strength that is weaker than the first electric field strength) so as to associate the magnitude with a value (e.g., 0 or 1) of the transmission data per bit.

According to another feature of the instant invention, a data determination is performed by associating the magnitude of the electric field strength at the receiving end with data. That is, the receiving apparatus detects the electric field strength, and based upon its magnitude, performs the data determination of obtained demodulation data.

The instant invention makes it possible to determine the relationship (correspondence) between the magnitude of the electric field strength and the data (e.g., 0 or 1) between the transmitting apparatus and the receiving apparatus. As a result, even if the electric field strength of a signal received by the receiving apparatus is weak (e.g., the second electric field strength), it is possible to determine the data corresponding to this weak electric field strength. Thus, a high quality data signal will be received by the receiving apparatus, and further, data reception is possible using a single antenna.

On the other hand, Applicants submit that LANGSTON discloses a wireless point-to-multipoint communication system in which a nodal transmitter is located in a given node with a plurality of uni-directional transmitting antennas coupled to the transmitter and positioned to radiate in different directions from the node and about the node. The uni-directional antennas comprise polarization type antennas, such that the polarization of the transmitted signal alternates about the node.

Applicants further submit that RUNYON discloses a dual polarized planar array antenna having radiating elements that enable simultaneous dual polarization states with substantially rotationally symmetric radiation patterns.

Applicants submit that neither LANGSTON or RUNYON, singularly or in the combination suggested by the Examiner, disclose or even suggest the above-described features of shifting the phase of a modulated signal by 0 degrees or 180 degrees based upon the value of transmission data per bit, or of sending the transmission signal from the first and second linear polarization antenna elements that are perpendicular to each other. Applicants further submit that the combination suggested by the instant invention also fails to determine data by associating the magnitude of the electric field strength with the data. Accordingly, Applicants submit that even if one attempted to combine the teachings of the applied references in the manner suggested by the Examiner, such a combination would lack significant features of the instant invention.

By the current response, Applicants have revised claims 1-13 and 15-17, and added new claim 18, to clarify the above-discussed features. In this regard, Applicants have also amended the claims to eliminate the use of means plus function claim language. Such amendments to the claims, which have not been specifically noted to overcome a rejection based upon the prior art, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto. As the combination suggested by the Examiner fails to include certain of Applicants' features, Applicants submit

that the pending claims are allowable over the applied art of record. Accordingly, the Examiner is respectfully requested to withdraw the 35 U.S.C. §103(a) rejection, to indicate the allowability of the pending claims, and to pass this application to issue.

SUMMARY AND CONCLUSION

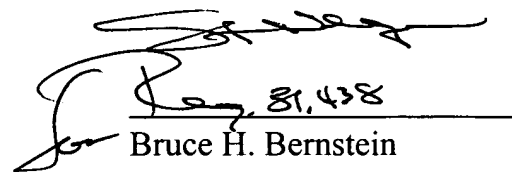
In view of the fact that none of the art of record, whether considered alone or in combination, discloses or suggests the present invention as defined by the pending claims, and in further view of the above amendments and remarks, reconsideration of the Examiner's action and allowance of the present application are respectfully requested and are believed to be appropriate.

Should the Commissioner determine that an extension of time is required in order to render this response timely and/or complete, a formal request for an extension of time, under 37 C.F.R. §1.136(a), is herewith made in an amount equal to the time period required to render this response timely and/or complete. The Commissioner is authorized to charge any required extension of time fee under 37 C.F.R. §1.17 to Deposit Account No. 19-0089.

If there should be any questions concerning this application, the Examiner is invited to contact the undersigned at the telephone number listed below.

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Respectfully submitted,
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